

REMARKS

Claims 1, 3, 5 and 7-19 are pending. Claims 2, 4 and 6 are canceled without prejudice or disclaimer and claims 1, 3 and 10 are amended. Claims 11-17 stand withdrawn from further consideration as being directed to an non-elected invention.

A marked-up version showing the changes to the claims made by the present amendment is attached hereto as **“Version with markings to show changes made.”**

Claims 1-8 are were rejected under 35 U.S.C. §112, first paragraph, for allegedly not providing enablement for “using” a sponge member. Claim 1 has been amended to clarify that an object to be cleaned is cleaned by bringing a sponge member into contact with the object to be cleaned.

Claims 1-8 were also rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite. Favorable reconsideration of this rejection is earnestly solicited.

Claim 1 requires a step wherein an object to be cleaned is cleaned by bringing a sponge member into contact with the object to be cleaned while supplying, to said object to be cleaned, water containing carbon dioxide gas having a resistivity value of less than 5MΩ. It is respectfully submitted that amended claim 1 is in full compliance with 35 USC § 112.

Claim 1 was rejected under 35 U.S.C. §101 for apparently merely reciting a use without setting forth any steps involved in the process. It is respectfully submitted that this rejection has been overcome by the present amendment.

Claims 1-10 were also rejected under 35 U.S.C. §112, second paragraph, in item 6 of the Office Action. Claim 1 has been amended to set forth “water containing carbon dioxide gas.” It is respectfully submitted that the amended claims are in full compliance with 35 U.S.C. §112.

Claim 1 was rejected under 35 U.S.C. §102(e) as being clearly anticipated by *Miyashita et al.* This rejection has been overcome by amendment of claim 1 incorporating the features of claim 2.

Claims 1, 2, 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Miyashita et al.* in view of *Kanno*. Favorable reconsideration of this rejection is earnestly solicited.

Miyashita et al. discloses only the use of superpure water having a resistivity value of $5\text{M}\Omega$ to $18\text{M}\Omega$. That is, *Miyashita et al.* does not suggest the use of cleaning water having a resistivity value of $5\text{M}\Omega$ or less as used in the present invention ($0.3\text{M}\Omega$ in the present example).

Further, the cleaning of *Miyashita et al.* is a type of cleaning the object to be cleaned with the sponge member being separated from the object to be cleaned, not a type of cleaning the object to be cleaned with the sponge member being brought into contact with the object to be cleaned as in the present invention.

The cleaning of *Kanno* is a type of cleaning by spraying cleaning water onto the object to be cleaned without using the sponge member.

In the case of using a system in which the sponge member is brought into contact with the object to be cleaned during cleaning, as shown in Fig. 3, even after cleaning was repeated many times, particles were not easily removed. According to the present invention, in the cleaning

employing a sponge member-contacting system where it is difficult to remove particles as mentioned above, as shown in Fig. 4, cleaning with extremely high particle elimination rate can be accomplished.

Claims 3, 4, 7 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Miyashita et al.* and *Kanno* further in view of *Simmons et al.* Favorable reconsideration of this rejection is earnestly solicited.

Simmons et al. is directed to cleaning its brushes in which case it would apparently be necessary to separate the sponge member from the object to be cleaned. The teachings of *Simmons et al.* would not have motivated one of ordinary skill in the art to separate the sponge member from the object to be cleaned during cleaning of the object.

Claims 9 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Miyashita et al.*, *Kanno* and *Simmons et al.* further in view of *Chung et al.* *Chung et al.* is applied by the Examiner for soaking an object to be cleaned in cleaning water “before cleaning.” Favorable reconsideration of this rejection is earnestly solicited.

Although *Chung et al.* discloses a method of semiconductor wafer cleaning, it appears that the cleaning method of *Chung et al.* is the soaking of the wafers by filling a vessel with water and overflowing the vessel at a certain rate while pumping carbon dioxide into the vessel. It does not appear that *Chung et al.* conducts any additional cleaning subsequent to this step. As such, the teachings of *Chung et al.* would not have motivated one of ordinary skill in the art to soak the object to be cleaned in cleaning water before cleaning with a sponge member.

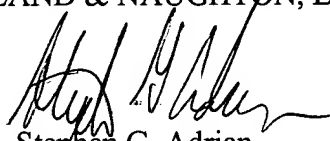
For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

In the event that this paper is not timely filed, applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees which may be due with respect to this paper, may be charged to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN, HATTORI,
McLELAND & NAUGHTON, LLP

A handwritten signature in black ink, appearing to read 'Stephen G. Adrian', is written over the printed name.

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Attachment: Version with markings to show changing made

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IN THE CLAIMS:

Claims 1, 3 and 10 have been amended as follows:

1. (Amended) A cleaning method of an electronic component wherein an object to be cleaned is cleaned [using] by bringing a sponge member into contact with the object to be cleaned while supplying, to said object to be cleaned, [cleaning] water containing carbon dioxide gas having [the] a resistivity value of less than 5 [10] M Ω [or less].

3. (Amended) A cleaning method of an electronic component according to claim 1, wherein said sponge member is separated from said object to be cleaned during cleaning, and said [cleaning] water is supplied also to said separated sponge member.

10. (Amended) A cleaning method of an electronic component according to any one of claims 1, 3, 5 or 7 to 9, wherein said object to be cleaned is soaked in [said cleaning] water having [the] a resistivity value of 10M Ω or less before cleaning.